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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/451,746	11/30/1999	CARLO VERTEMARA	99-S-096(167	9456

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EXAMINER

WONG, KIN C

ART UNIT	PAPER NUMBER
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2651

DATE MAILED: 11/19/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/451,746

Applicant(s)

VERTEMARA ET AL.

Examiner

K. Wong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 16-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 16-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Continued Prosecution Application

The request filed on 7/7/03 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/451746 is acceptable and a CPA has been established. An action on the CPA follows.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims (1-3) are rejected under 35 U.S.C. 102(b) as being anticipated by Wilson et al (5495156).

Regarding claim 1 Wilson et al discloses a control circuit for controlling a motor (actuator motor - element 20 in figure 2 of Wilson et al) assembly having a coil with first and second nodes and having a movable arm (element 8 in figure 1), the control circuit including:

a drive circuit (element 18 in figure 2) operable to be coupled to the first and second nodes of the coil (as depicted in figure 2), to receive a control signal and speed signal (velocity), to generate a drive signal in response to the control and speed signals, and to drive the coil with the drive signal in response to the control and speed signals, and to drive the coil with the drive signal; and

a sensor circuit (element 22 in figure 2) coupled to the drive circuit and having first and second sensor nodes operable to be respectively coupled to the first and

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second nodes of the coil such that no element is in series with the coil between the first and second sensor nodes, the sensor circuit operable to generate the speed signal having a level that corresponds to the speed of the arm (see col. 4, lines 52-64; col. 5, lines 26-57 and col. 2, lines 29-30 of Wilson et al).

Regarding claim 2: Wilson et al teaches that wherein the sensor circuit is operable to generate the speed signal by sensing a back voltage (back-emf) across the coil during a time period when substantially zero current is flowing through the coil and by generating the level of the speed signal such that the level corresponds to the sensed back voltage (in col. 5, lines 8-35 of Wilson et al).

Regarding claim 3: Wilson et al teaches that wherein the drive circuit is operable to accelerate the arm to a predetermined speed and to maintain the arm at approximately the predetermined speed for a predetermined time period (in col. 7, lines 2-13 of Wilson et al).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4-13, 16-37

Claims (~~4-37~~) are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson et al (5495156) in view of Cameron (6154340).

Regarding claim 32: the reason for Wilson et al is stated in above rejections. Wilson et al fails to mention a nondithered drive signal for the VCM. Cameron is relied

for the teachings of the nondithering drive signal for the VCM (see col. 6, lines 6-31 of Cameron).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modified the drive signal for VCM of Wilson et al with a nondithering drive signal for the VCM as taught by Cameron. The rationale is as follows: one of ordinary skill in the art would have been motivated to provide a resonance free drive signal for the VCM as suggested in col. 6, lines 22-29 of Cameron.

Regarding claim 33: the limitations of wherein the drive signal is operable to move a portion of the moveable arm at a speed of approximately five inches per second are considered known because Wilson et al describes the adjustable speed in col. 5, line 26 to col. 7, line 12 and depicted in figure 3 that which encompassed the five inches per second velocity movements of the arm.

Furthermore, the five inches per second optimization or through a routine experimentation would yield the desired velocity (or speed), especially, when no unexpected results seen to occur. See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233,235 (CCPA 1955) and *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969).

Regarding claims 4-7: claims (4-7) have limitations similar to those treated in the above rejections of claims (1-3 and 32-33), and are met by the references as discussed above. Claim 4 however also recites the following limitations of the head park/unpark (or load/unload) off a ramp that is known (see element 313 in figure 7 of Cameron). It would have been further obvious in the combination of Wilson et al and Cameron.

Regarding claims 8-11 and 34: claims (8-11 and 34) have limitations similar to those treated in the above rejections of claims (1-3 and 32-33, and/or, 4-7), and are met by the references as discussed above. Claim 8 however also recites the following limitations of a post for mounting the arm at the midsection of the arm that is well known (see element 304 in figure 7 of Cameron). It would have been obvious to artisan in the art in the combination of Wilson et al and Cameron. Furthermore, it is a merely a substitution of one actuator configuration over another for the same purpose, especially, when no unexpected result seen to occur. See *In re Ruff*, 256 F.2d 590, 118 USPQ 340 (CCPA 1958) and *In re Scott*, 323 F.2d 1016, 139 USPQ 297 (CCPA 1963)

Regarding claims 12-13 and 16-18: claims (12-13 and 16-18) have limitations similar to those treated in the above rejections of claims (1-3 and 32-33, and/or, 4-7), and are met by the references as discussed above. Claim 12 however also recites the following limitations of a disk drive, a disk and a platform (ramp) for which head position control circuit being utilized in such implementation is well discussed in above rejection of claims (1-7 and 32-33).

Regarding claims 19-26 and 36: method claims (19-26) are drawn to the method of using the corresponding apparatus claimed in claims (4-7 and 32-33). Therefore method claims (19-26 and 36) correspond to apparatus claims (4-7 and 32-33) and are rejected for the same reasons of obviousness as used above.

Regarding claims 27-29: method claims (27-29) are drawn to the method of using the corresponding apparatus claimed in claims (4-7 and 32-33). Therefore method

claims (27-29) correspond to apparatus claims (4-7 and 32-33) and are rejected for the same reasons of obviousness as used above.

Regarding claim 30: claim 30(s) have limitations similar to those treated in the above rejections, and are met by the references as discussed above. Claim 30 however also recites the following limitations that are directed to unparking (or unloading) which have been discussed in the rejection claims (4-7 and 32-33). Thus, claim 30 is considered satisfied for the reasons as discussed in above rejections.

Regarding claims 31 and 37: method claims (31 and 37) are drawn to the method of using the corresponding apparatus claimed in claims (1-7 and 32-33). Therefore method claims 31 and 37 correspond to apparatus claims (1-7 and 32-33) and are rejected for the same reasons of obviousness as used above.

Response to Arguments

Applicant's arguments filed 6/30/03 have been fully considered but they are not persuasive because the arguments are directed to the newly amended claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cameron (6154340) could be read (as alone) for claims 1, 4 and 8 in col. 3, line 51 to col. 4, line 67 and the claims 1, 4 and 8 as depicted in figures 5-7 which reserved from this office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Wong whose telephone number is (703) 305-7772.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Hudspeth can be reached on (703) 308-4825. The fax phone

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numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for all communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

gkw

13 Nov 03

Andrew L. Sniezek
ANDREW L. SNIEZEK
PRIMARY EXAMINER